



## Disaster and Emergency Management Resources

### How to Protect Yourself When Cleaning Up After a Flood

#### **The Health Risks of Cleaning Up After a Flood**

- Flooding is associated with the disruption of water purification and sewage disposal systems, overflowing of toxic waste sites, and dislodging of chemicals previously stored above ground.
- Although most floods do not cause serious outbreaks of infectious disease or chemical poisonings, they can cause sickness in workers and others who come in contact with contaminated floodwater.
- Floodwater often contains infectious organisms, including intestinal bacteria such as *E. coli*, salmonella, Hepatitis A virus, and agents of typhoid, paratyphoid, and tetanus.
- Ingesting contaminated food or water brings about most cases of sickness associated with flood conditions. Tetanus, however, can be acquired from contaminated soil or water entering broken areas of the skin, such as cuts, abrasions, or puncture wounds.
- Floodwaters also may be contaminated by agricultural or industrial chemicals or by hazardous agents present at flooded hazardous waste sites.
- Flood cleanup crew members who must work near flooded industrial sites also may be exposed to chemically contaminated floodwater.
- Pools of standing water become breeding grounds for mosquitoes, increasing the risk of West Nile Virus and encephalitis.

#### **Protecting Yourself**

- Before working in flooded areas, be sure your tetanus shot is current (given within the last 10 years).
- After a major flood, it is often difficult to maintain good hygiene during cleanup operations. To avoid waterborne disease, it is important to wash your hands with soap and clean, running water, especially before work breaks, meal breaks, and at the end of the work shift.
- You should assume that any water in flooded or surrounding areas is not safe unless the local or state public health department has specifically declared it to be safe.

- If no safe water supply is available for washing, use bottled water, water that has been boiled for at least 10 minutes, or chemically disinfected water (use 5 drops of liquid household bleach to each gallon of water).
- Water that is suspected of being contaminated with hazardous chemicals may require the use of special protective outer clothing and goggles.
- Before entering a contaminated area that has been flooded, you should don plastic or rubber gloves, boots, and other protective clothing needed to avoid contact with floodwater.
- Use insect repellent and cover skin areas with clothing as much as possible to reduce the risk of insect bites.

### **What to Do if Symptoms Develop**

- The signs and symptoms experienced by the victims of various waterborne microorganisms are similar even though they are caused by different pathogens. These symptoms include nausea, vomiting, diarrhea, abdominal cramps, muscle aches, and fever.
- Although different chemicals cause different health effects, the signs and symptoms most frequently associated with chemical poisoning are headaches, skin rashes, dizziness, nausea, excitability, weakness, and fatigue.
- If a cleanup worker experiences any of the signs or symptoms listed above, appropriate first-aid treatment and medical advice should be sought.
- If broken skin has come into contact with potentially contaminated water, a tetanus vaccination may be needed (depending on the individual's vaccination history).

*Adapted from a publication of the Occupational Health and Safety Administration entitled "How to Protect Yourself When Cleaning Up After a Flood"*